Wood (J.R.)

REPORT OF FOUR CASES

OF

NEUROTOMY

OF THE

SUPERIOR MAXILLARY NERVE,

WITH EXTIRPATION OF MECKEL'S GANGLION FOR THE CURE OF TIC-DOULOUREUX.

BY

JAMES R. WOOD, M. D.,

NEW YORK CITY.

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REPORT OF FOUR CASES OF NEUROTOMY OF THE SUPERIOR MAXILLARY NERVE, WITH EXTIRPATION OF MECKEL'S GANGLION FOR THE CURE OF TIC-DOULOUREUX.

Case I. Joseph Jones, æt. 42, U. S. Dr. James R. Wood. —Consulted me at my office March 20, 1866. He had suffered for several years with facial neuralgia, the right superior maxillary nerve and its branches being the organs affected. During the last year his suffering was intense. He had been treated by many medical men, and all forms of narcotics and anti-periodics were given in large doses, without permanent benefit. The infra-orbital nerve had been subcutaneously divided repeatedly with but slight relief. His habits had always been good. He had led a sedentary life, his occupation being that of a clerk. I proposed to him the exsection of the superior maxillary nerve, at the point where it makes its exit from the foramen rotundum of the sphenoid bone into the spheno-maxillary fossa. I explained the operation to him, and he being an intelligent man, I invited him to witness the operation on the dead body at my private room at Bellevue Hospital Medical College. He witnessed the operation and wished me to perform it upon him at an early day. On April 2, 1866, I caused him to be put under the influence of sulphuric ether, and performed the following operation. The patient was placed in a

chair in a reclining position. The day being a bright one fortunately, I placed him near a window, so that the rays of the sun fell upon his face, which enabled me to see with distinctness the most profound steps of the operation. I then made an incision, commencing near the inner canthus of the right eye, carrying it in a semilunar shape, until I reached a point a little below, and without the outer canthus of the eye. I then dissected up the flap; I then made a perpendicular incision, extending from a point opposite the center of the convex edge of the crescent-shaped incision, to near the vermilion border of the upper lip, without opening the buccal cavity. I then reflected back the integument to the right and left, being careful not to include any other tissues. I then dissected down to the superior maxillary nerve, where it makes its exit from the infra-orbital foramen. I proceeded to dissect out the branches of this nerve as far as practicable. These branches when the dissection was completed resembled the corda equina of the spinal cord in a miniature form. I then dissected away all the areolar and adipose tissues down to the periosteum. I then carefully separated the periosteum, and reflected it from the anterior surface of the superior maxillary. I then with a trephine carefully removed the anterior wall of the antrum of Highmore, leaving the inferior orbital foramen intact, with the branches of the nerve reflected upon the superior flap. I then with a smaller trephine removed a disk of bone from the posterior wall of the antrum, which exposed the spheno-maxillary fossa.

There had been but little hæmorrhage during the operation until then, when there was a welling up of blood from the spheno-maxillary fossa. A sponge attached to a holder was introduced, and pressure made for a few moments, when the bleeding ceased. I then commenced to break up the inferior wall of the infra-orbital canal beginning at the inferior portion of the infra-orbital foramen, being careful not to injure the nerve. This I did with a small chisel and a strong pair of scissors. I then dropped the nerve into the antrum and traced it without any difficulty through the spheno-maxillary fossa, to the distal end of the foramen rotundum where the nerve makes its exit into the spheno-maxillary fossa. I then

with a pair of long curved scissors divided the nerve at a point where it made its exit from the foramen rotundum into the spheno-maxillary fossa. I then broke up Meckel's ganglion, which lies at the inner aspect of this nerve at this point. After waiting a short time, there being no hæmorrhage, the integuments were brought together with interrupted silver sutures and adhesive strips, after thoroughly bathing the parts with carbolized water. There was a tent introduced at the lower angle of the perpendicular incision, to permit the discharge of blood or pus which might occur, then a compress of carbolized jute was placed over the wound and retained by adhesive strips. The patient came readily from under the influence of the ether. I remained with him for about an hour after the operation, during which time he did not suffer any pain. Having been in the habit of taking morphine for a long while, I ordered a grain of morphine to be given at bedtime. I found him the next day free from pain, having passed as he expressed it a "heavenly" night. His pulse was 90, skin hot and dry, temperature 100°. I ordered spirits of mindererus, an ounce once in two or three hours. In the evening his pulse was 88, temperature 99°, and I ordered one grain of morphine at bedtime. I saw him each day, and no unpleasent symptoms occurred, and on the sixth day the wound had entirely healed, with the exception of the inferior angle of the perpendicular incision. There was but little discharge of blood or pus from the dependent opening. The perpendicular incision entirely healed on the eighth day, and in three weeks after the operation he called at my office, saying that "Richard was himself again." I saw him occasionally for two years after the operation. He informed me that he had not suffered any pain since he came from under the influence of the ether. I then lost sight of him, as he had removed from the city.

Case II. Exsect. sup. max., including Meckel's ganglion, from the foramen rotundum to the infra-orbital foramen. (Wood, James R., Emeritus Professor of Surgery Bell. Hosp. Med. College, N. Y. Unpublished letter, 1876.)—Wm. S. R. Taylor was admitted into Bellevue Hospital, October 6, 1873. He was born in Scotland, and is at present fifty years

old. Has been a telegraph operator for a number of years, but was obliged to abandon his position on account of facial neuralgia. Family history is of no special importance, aside from the fact that some of his ancestors had been similarly affected. Patient has been for the most part well, and lived along time in South America, where he suffered from malarial fever.

No history of specific disease can be obtained from patient, and inspection does not disclose any of its lesions. He is addicted to no bad habits, but drinks occasionally. Ten years ago he began to suffer from left infra-orbital neuralgia, and was a victim of this malady to the time of his admittance to the Hospital. Everything in the way of drugs had been tried to free him from the excruciating pain with which he had for many years been afflicted. Two unsuccessful operations upon the infra-orbital nerve at the foramen of the same name had been already performed, but to no purpose.

In this deplorable state of mind he came to me, willing to sacrifice his life to be free from pain.

On the 25th of November, less than four weeks after the operation, the patient left the Hospital entirely free from pain.

In March, 1876, having the previous year called upon Mr. Erichsen in London, who examined this very interesting case at that time, the patient visited me at my office and said he had not had the slightest intimation of the presence of his old and dreaded enemy since leaving the Hospital.

Case III. Exsect. sup. maxillary nerve, etc. Wood, Jas. R., Emeritus Professor Bellevue Hosp. Med. College, N. Y. Unpublished letter, 1870.—Emma B. was sent to me with reference to the relief of facial neuralgia. She stated that she had been under the care of several physicians at different times, who had performed at different times subcutaneous operations upon the infra-orbital branches, but to no purpose.

She consulted me with a view of having the superior maxillary nerve extirpated, and I finally, at her request, determined to operate upon the superior maxillary nerve high up, at a point as near as possible to the foramen rotundum of the sphenoid bone. On the 29th of September, 1869, after a thorough examination, and after a consultation upon the ques-

tion of an operation with my colleagues, it was decided to exsect the nerve. The patient having been put under the influence of an anæsthetic, the operation was performed in accordance with methods which I have given in a previous letter. She came out of the state of anæsthesia very nicely, and from the time she recovered consciousness, for four months (January 29, 1870), she never experienced a pain in the face.

The wound was treated in the same way as the first-mentioned case, and no unfavorable symptom occurred to delay a speedy recovery.

Patient called upon me in June, about nine months after the operation, to state that new pains had come into the lower jaw, which, upon examination, were found to be in the course of the inferior maxillary nerve. Donovan's solution was prescribed, but, notwithstanding its use, the pain remained.

Her family physician, Dr. Daly, at Dr. Wood's suggestion, determined to remove a portion of the nerve at fault. He made an incision along the lower edge of the inferior maxilla, and having exposed the periosteum, which was carefully separated from the bone, the bone was trephined in four places.

The operation, performed in August, 1874, has been followed by entire cessation of the pain.

The case was heard from many months after this last operation, and up to that time patient had been perfectly well and altogether free from pain.

Case IV. Exsect. sup. maxillary nerve, etc. Wood, James R., New York. Unpublished Letter. 1877.—Michael Doyle was admitted into Bellevue Hospital January 13, 1870. Five years prior to his admission he was attacked with a severe pain in the region of the upper lip, which extended from thence upward toward the left eye. The pain, which was severe in character, continued for about two years, then spontaneously ceased. He can assign for the attack of neuralgia no other cause than that of sleeping on the damp ground. After an intermission of the pain for six months, it returned, and was more severe than at first.

The present attack has continued nearly two years, and, although every drug has been employed to relieve him of his

excruciating pain, no remedies have succeeded in doing so. Family history shows no hereditary tendencies. Physical examination reveals normal lungs and heart. His life has been exemplary as regards drinking and smoking.

January 29, 1870, I extirpated, by methods already described, the superior maxillary nerve and Meckel's ganglion. The wound was then closed, the lower part of the left vertical incision being left open in order to allow free drainage. The wound healed normally, and nothing unfavorable occurred to delay repair. Patient continued free from pain for several months (5–7), when pains of a neuralgic character appeared in the tract of the inferior maxillary nerve.

I cut down upon the inferior maxilla and trephined it over the dental canal. I also, by means of a bistoury introduced into the mouth, divided the nerve just as it makes its entrance into the dental foramen.

Subsequently to this operation, a small piece of necrosed bone came away, but the patient had not, up to the time of his discharge from the hospital, which took place a month or so later, experienced any pain of the face. (May, 1873.)

In June, 1875, the patient returned to hospital, professing to suffer from his old enemy. He has become a confirmed opium-eater, and begs for the drug in a slavish and imploring manner. He has been carefully watched for many months, and the results of these observations have confirmed me in the belief that he suffers more from being deprived of the pleasure of opium-eating than from any actual pain. His appetite is very good, and he sleeps well, and, if he gets a hypodermic injection of a liquid resembling in appearance Magendie's solution, he is as comfortable and sleeps as well, whether it be morphia or distilled water, provided only the substitution is not too long continued at any one time.

November 7, 1877.—An abscess has formed on left buttock. An opening having been made, an immense quantity of pus was discharged.

9th.—The patient was given Magendie's solution ℥ 130, besides bromide and chloral.

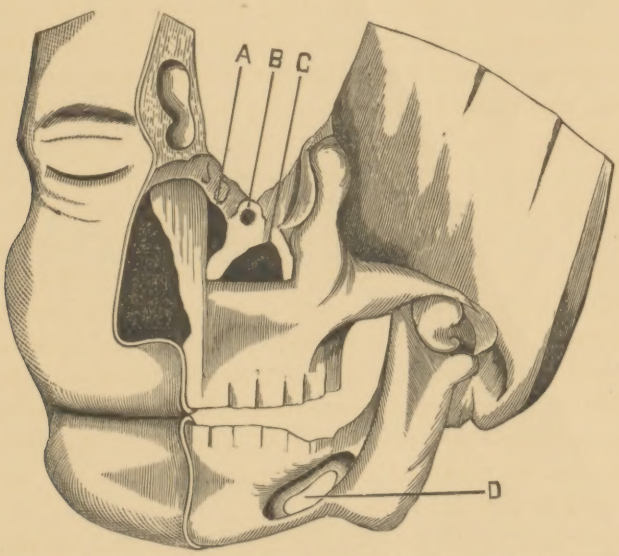
11th.—Magendie's solution, ℥ 200, pot. brom. 75 grs., chlor. hydrat. grs. 40, has been given during the day.

15th.—The patient received to-day Magendie ℞ 290.

27th.—Another large abscess has formed between scapulæ. For the past three weeks the patient has gradually been growing feebler; cornea has begun to ulcerate.

30th.—The patient has been unable to take solid food for twenty days. Brandy and egg-nogg have been given him at short intervals. For the past few days he has groaned almost constantly, and seems to have taken a great dislike to hypodermic injections.

After having passed a quiet night the patient died, at about eight o'clock in the morning, November 30, 1877. In the *post-mortem* examination the nerve could be seen entering the foramen rotundum from the proximal side, and no trace of it upon the distal side of the skull. The foramen was closed, on the interior surface, by bone.



A, Part of Nasal Cavity; *B*, Foramen Rotundum closed by bone; *C*, Opening into Antrum of Highmore; *D*, Where Inferior Maxilla was trephined for Inferior Maxillary Nerve.

This patient made a will, giving his body to me, and the specimen is now in the Wood Museum.

An examination of the intra-cranial portion of the trigeminus, by Dr. Welch, of the Bellevue Hospital Medical Col-

lege, showed a very slight difference in the diameter of the superior maxillary divisions of the two sides.

That of the left (side of the pain) is about three quarter mm. less in diameter than that of the right side.

On tracing the nerve in its course through the pons, the cross-section of the left trunk appeared of a somewhat deeper gray color than that of the right, but the microscopical examination (after hardening in Müller's fluid) showed the nerves well preserved, although there appeared to be a larger number of small nerve-fibers on the left than on the right side, but no other evident change could be demonstrated, in particular no degenerative changes in the nerve-fibers, and no increase of the neuroglia. A microscopical examination of the nucles of the trigeminus showed the ganglion cells as usually deeply pigmented, but there was no difference between the nuclei of the two sides, and no evidence of disease of central origin.

HEALTH,

AND

HOW TO PROMOTE IT.

BY

RICHARD McSHERRY, M. D.,

PROFESSOR OF PRINCIPLES AND PRACTICE OF MEDICINE, UNIVERSITY OF MARYLAND; MEMBER OF AMERICAN MEDICAL ASSOCIATION; PRESIDENT OF BALTIMORE ACADEMY OF MEDICINE.

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